IN THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application:

1. (Currently Amended) A method for achieving a trim amount of a feature on a substrate in a chemical oxide removal process comprising:

setting a process recipe for performing said chemical oxide removal process in two or more different processing regimes that facilitate different ranges of trim amount, said process recipe comprising a static recipe component and a formula model component for each of said two or more different processing regimes, wherein said setting said process recipe comprises setting an amount of a first process gas; and setting an amount of a second process gas for said static recipe component in each of said two or more different processing regimes;

determining a relationship between a trim amount of said feature and an amount of an inert gas for said formula model component in each of said two or more different processing regimes, wherein said relationship is established for said̶ an amount of said̶ a first process gas; and said̶ an amount of said̶ a second process gas in said static recipe component of each of said two or more different processing regimes;

adjusting said process recipe for said chemical oxide removal process in order to achieve a target̶ said trim amount by selecting one of said two or more different processing regimes and setting an amount of an inert gas using said relationship of said formula model component for said selected one of said two or more different processing regimes;

chemically treating said feature on said substrate by exposing said substrate using said process recipe; and

substantially removing said trim amount from said feature,

wherein said determining said relationship includes curve-fitting either said trim amount data̶ as a function of said amount of said inert gas or said amount of said inert gas as a function of said trim amount̶ data.

2. (Original) The method of claim 1, wherein said substantially removing said trim amount from said feature comprises thermally treating said substrate by elevating the temperature of said substrate following said chemical treating.

3. (Original) The method of claim 1, wherein said substantially removing said trim amount from said feature comprises rinsing said substrate in a water solution following said chemical treating.

4. (Original) The method of claim 1, wherein said setting said amount of said first process gas includes setting an amount of HF, and said setting said amount of said second process gas includes setting an amount of NH_3.

5. (Original) The method of claim 1, wherein said setting said amount of said inert gas includes setting an amount of argon.

6. (Original) The method of claim 1, wherein said chemically treating said feature includes introducing said first process gas independently from said second process gas.

7. (Currently Amended) The method of claim 1, wherein said setting said process recipe further includes setting a pressure for said static recipe component of each of said two or more processing regimes.

8. (Currently Amended) The method of claim 1, wherein said setting said process recipe further includes setting a temperature of said substrate for said static recipe component of each of said two or more processing regimes.

9. (Currently Amended) The method of claim 1, wherein said setting said process recipe further includes setting a time period for chemically treating said substrate for said static recipe component of each of said two or more processing regimes.

10. (Currently Amended) The method of claim 1, wherein said setting said process recipe further includes setting a temperature of a chemical treatment process for chemically treating said substrate for said static recipe component of each of said two or more processing regimes.

11. (Original) The method of claim 1, wherein said chemically treating said feature includes chemically treating a silicon oxide feature.

12. (Currently Amended) A method for trimming a feature on a substrate using a chemical oxide removal process comprising:

determining a relationship between a trim amount of said feature and an amount of an inert gas for two or more different processing regimes that facilitate different ranges of trim amount, wherein each said relationship is established for an amount of a first process gas, and an amount of a second process gas;

selecting a target trim amount;

selecting one of said two or more different processing regimes using said target trim amount;

selecting a target amount of inert gas for achieving said target trim amount using said relationship for said selected one of said two or more different processing regimes;

chemically treating said feature on said substrate by exposing said substrate to said selected process recipe that includes said amount of said first process gas, said amount of said second process gas, and said target amount of said inert gas; and

substantially removing said target trim amount from said feature, wherein said determining said relationship includes curve-fitting either said trim amount data as a function of said amount of said inert gas or said amount of said inert gas as a function of said trim amount data.

13. (Original) The method of claim 12, wherein said substantially removing said target trim amount from said feature comprises thermally treating said substrate by elevating the temperature of said substrate following said chemical treating.

14. (Original) The method of claim 12, wherein said substantially removing said target trim amount from said feature comprises rinsing said substrate in a water solution following said chemical treating.

15. (Currently Amended) The method of claim 12, wherein each said relationship is established for said amount of said first process gas and said amount of said second process gas includes a relationship for an amount of HF and amount of NH_3.

16. (Currently Amended) The method of claim 12, wherein each said relationship between a trim amount of said feature and an amount of an inert gas includes a relationship between a trim amount of said feature and an amount of argon.

17. (Original) The method of claim 12, wherein said chemically treating said feature includes introducing said first process gas independently from said second process gas.

18. (Currently Amended) The method of claim 12, wherein each said relationship is further established for a pressure.

19. (Currently Amended) The method of claim 12, wherein each said relationship is further established for a temperature of said substrate.

20. (Currently Amended) The method of claim 12, wherein each said relationship is further established for a time period of said chemical treating.

21. (Original) The method of claim 12, wherein said chemically treating said feature includes chemically treating a silicon oxide feature.

22. (Original) The method of claim 12, further comprising:
optimizing said relationship in order to minimize an error in a trim amount, wherein said error in said trim amount is determined from translating a difference between said trim amount data and said relationship into said error in said trim amount using said relationship.

23. (Canceled)

24. (Previously Presented) The method of claim 12, wherein said curve-fitting comprises fitting with polynomial expressions.

25. (Currently Amended) The method of claim 24, further comprising:
optimizing each said relationship in order to minimize an error in a trim amount, wherein said error in said trim amount is determined from translating a difference between

said trim amount data and ~~each~~~~said~~ relationship into said error in said trim amount using ~~each~~~~said~~ relationship.

26. (Original) The method of claim 25, wherein said optimizing includes adjusting the order of said polynomial expressions.

27. (Canceled)

28. (Currently Amended) The method of claim 12[[27]], wherein said chemically treating said feature includes using a separate mass flow controller for each of said two or more process~~ing~~ regimes.

29. (Currently Amended) A method for achieving a trim amount of a silicon oxide feature on a substrate in a chemical oxide removal process comprising:

setting a process recipe for performing said chemical oxide removal process in two or more different processing regimes that facilitate different ranges of trim amount, wherein said setting said process recipe comprises setting an amount of HF, and setting an amount of NH_3;

selecting a target trim amount;

adjusting said process recipe for said chemical oxide removal process in order to achieve said target trim amount by selecting one of said two or more different processing regimes and setting an amount of argon, wherein said selecting one of said two or more different processing regimes depends on a sensitivity of said trim amount to said amount of argon near said target trim amount;

chemically treating said feature on said substrate by exposing said substrate using said process recipe, wherein said amount of HF is introduced independently from said amount of said NH_3, and said amount of argon is introduced with said amount of NH_3; and

substantially removing said target trim amount from said feature,

wherein increasing said amount of argon corresponds to decreasing said trim amount.

30. (Withdrawn) A system for achieving a trim amount on a substrate in a chemical oxide removal process comprising:

a chemical treatment system for altering exposed surface layers on said substrate by exposing said substrate to an amount of a first process gas, an amount of a second process gas, and an amount of an inert gas;

a thermal treatment system for thermally treating said chemically altered surface layers on said substrate; and

a controller coupled to said chemical treatment system and configured to adjust said amount of said inert gas in order to achieve said trim amount.